COMMONWEALTH OF MASSACHUSETTS

APPELLATE TAX BOARD

NSTAR ELECTRIC COMPANY	**v.**	**BOARD OF ASSESSORS OF THE CITY OF BOSTON**
Docket Nos.: F316346 (FY 2012) F319254 (FY 2013)		Promulgated: August 11, 2017

These are appeals under the formal procedure, pursuant to G.L. c. 58A, § 7 and G.L. c. 59, §§ 64 and 65, from the refusal of the Board of Assessors of the City of Boston (the "assessors" or "appellee") to abate taxes on certain personal property in the City of Boston owned by and assessed to the NSTAR Electric Company (the "appellant" or "NSTAR") under G.L. c. 59, §§ 11, 18, and 38, for fiscal years 2012 and 2013.

Chairman Hammond heard these appeals. Commissioners Scharaffa, Rose, Chmielinski, and Good joined him in the decisions for the appellee.

These findings of fact and report are promulgated pursuant to the appellant's request under G.L. c. 58A, § 13 and 831 CMR 1.32.

Daniel J. Finnegan, Esq. and *Michael D. Roundy,* Esq. for the appellant.

David L. Klebanoff, Esq. and *Nicholas Ariniello*, Esq. for the appellee.

FINDINGS OF FACT AND REPORT

These appeals involved fourteen days of trial, testimony from eight witnesses, including three experts and two rebuttal witnesses who had testified in the appellant's case-in-chief, the introduction of over forty exhibits, and two stipulations of agreed facts with additional exhibits attached. The parties also jointly submitted an appendix that contains a compendium of pertinent regulatory decisions or relevant portions of them by the Massachusetts Department of Public Utilities (the "DPU"), or its predecessor, from 1993 to 2011, plus one each from the Washington State Utilities and Transportation Commission, the New Hampshire Public Utilities Commission, and the Federal Energy Regulatory Commission (the "FERC").[1] The parties also submitted both post-trial and reply briefs, and requests for findings of fact. The appellant additionally submitted a request for rulings of law.[2] Based on all of the evidence, the Appellate Tax Board (the "Board") made the following findings of fact.

[1] For a number of reasons, the page numbers assigned to the DPU decisions in the compendium do not necessarily correspond to those on the website (http://web1.env.state.ma.us/DPU/FileRoom/dockets/bynumber) from which the parties accessed the decisions.

[2] At the close of the appellant's case-in-chief, the assessors filed a motion for a directed verdict on the ground that the appellant was not entitled to relief because it failed to timely file a "true list" for its personal property located in Boston, in accordance with G.L. c. 59, § 29, for both fiscal years at issue and the assessments for those fiscal years did not exceed 150% of the values put forth by the appellant. The Board took this motion under advisement and later ruled that it was moot given that the decisions in these appeals were for the appellee.

Introduction

On January 1, 2011 and January 1, 2012, NSTAR was the assessed owner of personal property situated in Boston. NSTAR is a public electric utility that serves 81 communities in Massachusetts, including Boston, and is regulated by the DPU and FERC. As of January 1, 2011 and January 1, 2012, NSTAR served a total of 1,157,000 and 1,163,000 customers, respectively, with 302,153 and 304,057 customers located within Boston, respectively.

The personal property at issue consists of electric utility transmission and distribution property placed at various locations throughout the City (the "subject property"). As of the relevant valuation and assessment dates, NSTAR reported that the subject property consisted of the categories and quantities summarized in the table below.

	Fiscal Year 2012	Fiscal Year 2013
Poles	50,488	44,230
Circuit miles of overhead lines	414	419
Circuit miles of underground lines	1,641	1,678
Circuit miles of conduit	1,598	1,634
Services	102,656	94,404
Transformers	12,337	12,424
Meters	302,153	304,057
Street lights	25,791	25,625

The subject property reported and valued by NSTAR did not include so-called construction work in progress ("CWIP"), but it did include completed construction not yet classified. As of the relevant valuation and assessment dates, NSTAR reported the

total gross cost, the total depreciation, and the total net book cost of the subject property as summarized in the table below.

	Fiscal Year 2012	Fiscal Year 2013
Total gross original cost	$1,605,629,710	$1,655,852,137
Total depreciation	$ 450,700,003	$ 473,739,050
Total net book cost	$1,154,929,707	$1,182,113,087

NSTAR did not maintain or report separate accounts booking the depreciation of its property located in Boston. NSTAR's depreciation is based on multiplying a systems-wide average depreciation rate for all of NSTAR's Massachusetts property by the gross original cost of the property.

The methodology implemented by the assessors for valuing the subject property consisted of an equal weighting of the net book cost reported by NSTAR coupled with the replacement cost new less physical depreciation of the subject property. For fiscal year 2012, the assessors valued the subject property at $1,586,035,900 and assessed a tax thereon at the commercial rate of $31.92 per $1,000 in the amount of $50,626,265.93. For fiscal year 2013, the assessors valued the subject property at $1,634,648,000 and assessed a tax thereon at the commercial rate of $31.96 per $1,000 in the amount of $52,243,350.08.

Jurisdiction

In accordance with G.L. 59, § 57A, the appellant timely paid the tax due for both fiscal years at issue without incurring interest. Based on the appellant's timely payment of

the personal property taxes and the jurisdictional information summarized in the following table, the Board found and ruled that, in accordance with G.L. c. 59, §§ 59 and 64-65, it had jurisdiction over these appeals.

	Tax Bill Mailed	Abatement Application Filed	Abatement Application Denied	Petition Filed
Fiscal Year 2012	12/31/2011	01/31/2012	03/12/2012	06/11/2012
Fiscal Year 2013	12/31/2012	01/31/2013	02/14/2013	05/13/2013

Regulatory and Legal Setting

As set out in ***Boston Gas Co. v. Assessors of Boston***, 458 Mass. 715, 717-19 (2011) ("***Boston Gas/SJC***") - the Supreme Judicial Court's latest pronouncement on valuing regulated utility property for *ad valorem* tax purposes - the assessors must value taxable property at its fair cash value, pursuant to G.L. c. 59, § 38. This statute dictates that a property's "fair market value" is "'the price an owner willing but not under compulsion to sell ought to receive from one willing but not under compulsion to buy.'" ***Boston Gas/SJC*** at 717 (quoting ***Boston Gas Co. v. Assessors of Boston***, 334 Mass. 549, 566 (1956)). "When challenging an assessment before the Board, the burden rests on the taxpayer to establish its right to an abatement of the assessed tax." ***Boston Gas/SJC*** at 717 (citing ***Schlaiker v. Assessors of Great Barrington***, 365 Mass. 243, 245 (1974)(quoting ***Judson Freight Forwarding Co. v. Commonwealth***, 242 Mass. 47, 55 (1922))). The assessment is presumed valid

unless the taxpayer sustains its burden of proving otherwise. ***Boston Gas/SJC*** at 717 (citing ***Schlaiker***, 365 Mass. at 245).

Some of the methods used to value taxable utility property include: (1) a determination of the property's net book value; (2) an income-capitalization valuation; (3) a sales-comparison valuation; (4) a determination of reproduction cost new less depreciation ("RCNLD"); (5) or a blending of these approaches. ***Boston Gas/SJC*** at 717 (citing ***Tennessee Gas Pipeline Co. v. Assessors of Agawam***, 428 Mass. 261, 263 (1998)(citing ***Montaup Elec. Co. v. Assessors of Whitman***, 390 Mass. 847, 850 (1984))); *see also* ***Boston Edison Co. v. Assessors of Boston***, 402 Mass. 1, 13 (1988) ("***Boston Edison Co.***").

The DPU regulates the rates that electric companies charge consumers. "The net book value of the regulated utility company, also known as the 'rate base' value, plays an important role in the DPU's calculation of the revenue that a regulated electric utility is permitted to earn." ***Boston Gas/SJC*** at 717-18 (citing ***Tennessee Gas Pipeline Co.***, 428 Mass. at 263). "The DPU allows a utility to recover, through the rates charged to consumers, its reasonable operating expenses, taxes, depreciation and amortization, and other costs." ***Boston Gas/SJC*** at 718 (citing ***Boston Gas Co. v. Department of Telecomm. & Energy***, 436 Mass. 233, 234 (2002), quoting ***Theory and Implementation of Incentive Regulation***, D.P.U. 94-158 at 3

(1995); **Boston Gas Co.**, D.T.E. 03-40-B at 13-20 (2004) (breaking out the components of Boston Gas's revenue requirements)). "A utility is also permitted to earn a reasonable return on investment, which is calculated as a percentage return on the utility's rate base." ***Boston Gas/SJC*** at 718 (citing ***Boston Gas Co. v. Department of Telecomm. & Energy***, 436 Mass. at 234; ***Boston Gas Co.***, D.T.E. 03-40-B at 16 (calculating return on rate base for company)). "The cost of utility property may be included in the utility's rate base if the property is 'used and useful' to customers and if the costs were 'prudently incurred.'" ***Boston Gas/SJC*** at 718 (citing ***Hingham v. Department of Telecomm. & Energy***, 433 Mass. 198, 202 (2001)). "For ratemaking purposes, the value of property included in the rate base is its net book value, which has been defined as "'the original cost of the property at the time it was originally devoted to public use, less accrued depreciation.'" ***Boston Gas/SJC*** at 718 (quoting ***Tennessee Gas Pipeline Co.***, 428 Mass. at 263).

"In the context of a sale of utility assets, the DPU has maintained a general policy of limiting the net book value of assets in the hands of the buyer to the existing net book value in the hands of the seller." ***Boston Gas/SJC*** at 718 (citing ***Tennessee Gas Pipeline Co.***, 428 Mass. at 263). "In this way, any acquisition premium paid for the assets – that is, an amount

paid above net book value – would be excluded from the buyer's rate base, and the buyer would thus not earn the DPU-specified rate of return on the premium; as of 2003, the DPU stated that such exclusion remains the norm." ***Boston Gas/SJC*** at 718 (citing ***Boston Gas Co.***, D.T.E. 03-40 at 323 (2003)). "This policy has been referred to as the 'carry-over rate base principle.'" ***Boston Gas/SJC*** at 718 (citing ***Montaup Elec. Co.***, 390 Mass. at 852-53).

The Supreme Judicial Court has stated that "the net book value of utility assets is the proper value for assessment purposes, absent 'special circumstances' that would induce a buyer to pay more than net book values." ***Boston Gas/SJC*** at 718-19 (citing ***Tennessee Gas Pipeline Co.***, 428 Mass. at 263-64). "Such circumstances may include (1) that 'the utility company's net earnings actually may exceed the rate of return approved by the regulatory agency'; (2) that 'the profit available from this transaction may exceed that which an investment of comparable risk could bring in the open market'; (3) that 'the applicable regulatory agency may change its policies and abandon the carry-over rate base principle, thereby making an investment in the company more attractive'; or (4) '[t]he potential for growth in a utility's business.'" ***Boston Gas/SJC*** at 719 (quoting ***Boston Edison Co. v. Assessors of Watertown***, 387 Mass. 298, 305-06 (1982)("***Watertown***")). "The special circumstances that could

induce a buyer to pay more than net book value are not limited to the examples enumerated above." ***Boston Gas/SJC*** at 719 (citing ***Watertown*** at 306). These "circumstances" are often referred to, and are referenced hereinafter, as ***Watertown*** factors.

In ***Boston Gas Co. v. Assessors of Boston***, Mass. ATB Findings of Fact and Reports 2009-1195 ("***Boston Gas/Board***"), the Board reviewed numerous cases and transactions that "illustrated the development of Massachusetts regulatory policy [since ***Watertown***] and the move away from a strict carryover-rate-base valuation model." ***Id.*** at 2009-1278. The following three paragraphs summarize the Board's review, analysis, and conclusions relating to the then existing regulatory and legal landscape as of fiscal year 2004, the fiscal year at issue in ***Boston Gas/Board***.

First, the Board in ***Boston Gas/Board*** noted that in ***Boston Edison Co.***, the Supreme Judicial Court affirmed the Board's blended approach to valuation that reflected "a prudent purchase price above the plant's net book." ***Boston Edison Co.***, 402 Mass. at 15. Next, the Board in ***Boston Gas/Board*** observed that in ***Boston Edison Co. v. Assessors of Everett***, Mass. ATB Findings of Fact and Reports 1996-759 ("***Boston Edison/Everett***"), it reviewed "the regulatory environment for and potential purchasers of electric utilities," ***id.*** at 813, and after an extensive review

that included federal regulatory precedent, various DPU decisions, and the Court's decision in ***Boston Edison Co.***, and after noting the DPU's departure from its prior adherence to cost-based rate determinations, the Board in ***Boston Edison/Everett*** valued that regulated electric utility property on a two-to-one ratio of depreciated replacement cost to net book cost.

The Board in ***Boston Gas/Board*** then noted that shortly after the Board's decision in ***Boston Edison/Everett***, the Supreme Judicial Court reviewed and affirmed the DPU's valuation, under G.L. c. 164, § 43, of an electricity distribution system using an equal weighting of RCNLD and original cost less depreciation methodologies. *See* ***Stowe Municipal Electric Department v. Department of Public Utilities***, 426 Mass. 341, 345-46 (1998) ("***Stowe***"). The Board in ***Boston Gas/Board*** further observed that the Court, in affirming the DPU's decision in ***Stowe***, commented on how the DPU had "recently changed from a mandatory rule always limiting a buyer of utility property to the seller's rate base to a case-by-case determination." ***Id.*** at 347. The Board in ***Boston Gas/Board*** also noted that shortly thereafter, in ***Attorney General v. Department of Telecommunications and Energy, Boston Edison Company, et al.***, 438 Mass. 256 (2002) ("***Nstar***"), the Supreme Judicial Court considered the appeal of a DPU decision that allowed the recovery of an acquisition premium in

the merger that created NSTAR. The Court recognized the DPU's relatively new policy that "merger-related costs [are recoverable] where consolidation and recovery of costs will serve the 'public interest,' [as] set forth in D.P.U. 93-167-A (1994) ("***Mergers and Acquisitions***")," and that this policy reversed DPU's previous policy of *per se* disallowance of acquisition premiums in favor of a case-by-case determination using the "public interest" standard. ***Id.*** at 261-62.

From its review of these cases and DPU decisions, the Board in ***Boston Gas/Board*** concluded that DPU policy had indeed changed since ***Watertown***, rendering the value of regulated utility property greater than its mere carry-over rate base. The Board catalogued these policy changes as including: adjustments in the purchaser's rate base for prudently incurred purchase costs above the plant's net book cost; consideration of acquisition premium cost recovery on a case-by-case basis; determining that an equal weighting of RCNLD and net book cost met the "fair value" standard under G.L. c. 164, § 43; and the adoption of performance-based rates that permitted a utility operating efficiently to achieve a level of profitability not allowed under the traditional cost-based formula. ***Boston Gas/Board***, Mass. ATB Findings of Fact and Reports at 2009-12.

In reviewing the Board's analysis of the regulatory and legal landscape in ***Boston Gas/Board***, the Supreme Judicial Court

in ***Boston Gas/SJC*** affirmed the "board's findings that changes in the regulatory environment for utilities justified the use of a valuation method other than net book value." ***Boston Gas/SJC***, 458 Mass. at 722. The Court stated that in ***Boston Edison Co.***, 402 Mass. at 13, "we held that the board reasonably saw, based on a prior decision of the DPU upheld by this court, 'the possibility that the [DPU] might allow adjustments in a purchaser's rate base to reflect a prudent purchase price above the plant's net book cost.'" The Court also recognized the DPU's formal "shift in its policy with respect to the carry-over rate base principle in a 1994 order," ***Boston Gas/SJC***, 458 Mass. at 722, and that "[t]he ruling appeared to contemplate the possibility both of a *return of the acquisition premium* – for example, as a recoverable cost to the company – *and a return on the acquisition premium* by including it in the acquirer's rate base." ***Id.*** at 723 (emphasis added). The Court pointed out that it had acknowledged the DPU's regulatory change "from a mandatory carry-over rate base policy to a case-by-case approach" in ***Stowe***, 426 Mass. at 347, and had affirmed the DPU's approval of a rate plan which allowed the recovery of an acquisition premium paid to consummate a merger in ***Nstar***, 438 Mass. at 258.

In sum, the Court allowed that "[t]hese cases and DPU orders amply demonstrate the type of regulatory change

anticipated in [***Watertown***], justifying the use of a valuation methodology other than net book value." ***Boston Gas/SJC***, 458 Mass. at 724. The Court went on to pronounce that "[t]he DPU has declared its abandonment of a strict carry-over rate base policy, this court has repeatedly and recently acknowledged that policy change, and the DPU has, in practice, allowed the recovery of a premium in a utility merger." ***Id.*** Lastly, the Court, in a footnote, "also agree[d] with the board that the DPU's adoption of 'performance-based rates' . . . could contribute to a buyer's willingness to pay more than net book value for rate regulated utility property." ***Id.*** at 724 n. 17.

This background begs the threshold question in these appeals: whether any of these or similar circumstances - which militate against relying solely on net book value to value the subject property - existed as of the relevant valuation and assessment dates for these appeals.

The Appellant's Case-in-Chief

The appellant introduced thirty exhibits into evidence, including FERC financial reports, depreciation studies, pole studies, expert reports, several forms of list, documents pertaining to the merger of Northeast Utilities and NSTAR (the "NSTAR/NU merger"), certain SEC Form 10-Ks, discounted cash flow analyses, a weighted average cost of capital study, and a DPU Decision. The appellant also called five witnesses to testify,

including two expert witnesses who additionally testified in rebuttal.

The appellant's first three witnesses - Michael Farrell, Jay Buth, and Jeffrey R. Cahoon - were all executives with Northeast Utilities. Mr. Farrell was the company's Director of Revenue and Regulatory Accounting; Mr. Buth, a Vice-President, was the company's Controller and Chief Accounting Officer; and Mr. Cahoon, also a Vice-President, was in charge of the company's Business Financial Services and Corporate Performance Management.

Michael Farrell

Mr. Farrell primarily testified about the nature and extent of the subject property, its original cost and accumulated depreciation, NSTAR's system-wide depreciation methodology, CWIP, contributions in aid of construction, and regulatory assets, as well as the treatment of NSTAR's personal property in transactions. Mr. Farrell testified that NSTAR commissions a study to determine the depreciation to apply to its utility plant assets, which it last did in 2005. According to Mr. Farrell, the study is based on NSTAR's actual experience, as well as interviews, observations, and the study expert's general industry knowledge. The study is then used to determine average service lives so customers are paying for the assets over the assets' service lives. The depreciation rates reflect recovery

for not only the installed cost but also the cost of removal, minus any scrap recovery. Mr. Farrell also testified about the process for recovering and writing off as an expense so-called regulatory assets - such as pension plan expenses and storm costs - over the time it takes to collect the costs from customers. Mr. Farrell did not consider regulatory assets to be tangible property.

Jay Buth

Mr. Buth testified about the accounting treatment and purchase price allocation of the regulated physical plant assets and the goodwill associated with the NSTAR/NU merger. He stated that the merger was an enterprise transaction in which the fair value of the regulated distribution and transmission property was determined to be the property's net book value and the amount paid over that value - the acquisition premium - was for accounts receivable, cash, the trained and experienced work force, the management, and the business acumen and expertise of management. He further testified that the acquisition premium was booked as goodwill, an intangible asset, at the holding company level and was not incorporated into the rate base for NSTAR.

Jeffrey R. Cahoon

Mr. Cahoon testified about the nature of and rationales for the NSTAR/NU merger, the anticipated benefits to ratepayers, the

merger settlement agreements, and DPU's and other authorities' approval of the merger. According to Mr. Cahoon, the rationale for the NSTAR/NU merger included increased financial strength and geographic diversity, improved presence in the regulatory area, combining complementary strengths, and sharing best practices. Mr. Cahoon testified that, throughout the NSTAR/NU merger discussions to which he was privy, the value of the companies' tangible physical assets exceeding their net book value was never broached.

In addition to the three witnesses from Northeast Utilities, the appellant called two expert witnesses – John Reed and David Moody.

John Reed

John Reed, whom the Board qualified as an expert in regulatory, economic, and financial matters relating to utilities, testified and reported on valuation principles relating to regulated utility property; the status and nature of cost-of-service regulation in Massachusetts by the DPU and FERC, regulatory changes including performance-based ratemaking, and revenue decoupling mechanisms; the effect of industry consolidation on utility asset valuation; and the distinctions between the value of physical utility plant assets and the value of entire utility enterprises. More particularly, Mr. Reed opined that none of the factors set forth in ***Watertown*** that

might lead a potential purchaser of NSTAR's personal property in Boston to pay more than the net book cost of such property existed as of the relevant valuation and assessment dates here. Consequently, he concluded that there were no special circumstances applicable to the subject property that would warrant a departure from using net book value as the appropriate measure of value for *ad valorem* tax purposes.

Mr. Reed based his conclusion that special circumstances did not exist in these appeals on his analysis of the nature and impact of utility regulation in Massachusetts by the DPU and FERC. According to Mr. Reed, under traditional cost-of-service regulation, it is the net book value of the assets that goes into the rate base on which an authorized return is calculated. This return includes the recovery of interest on debt used to finance the investment in the assets, as well as an allowed profit on the equity portion of that investment. The company's revenue requirement formula also provides for the recovery of the operating expenses of the utility, the depreciation expense by which the original investment is returned, and an amount intended to cover the payment of income taxes. Accordingly, under traditional cost-of-service regulation, utilities are allowed to earn their cost of doing business as well as a reasonable opportunity to earn an authorized return on the assets used to provide the regulated utility service. In

addition, regulators have employed alternative regulatory frameworks, such as performance-based ratemaking ("PBR"), which is designed to incentivize efficient operation of a utility system by providing the utility an opportunity to earn more than its allowed return on equity. NSTAR's PBR plan was terminated effective December 31, 2011. Mr. Reed testified that "at present," that is, as of the date of his testimony, there were no electric utility PBRs in Massachusetts, and, at any rate, he did not believe that they affected the value of utility assets.

Mr. Reed also discussed revenue decoupling mechanisms in Massachusetts as a means for insulating utilities from the effects of changes in sales volume, particularly those arising from efficiency programs and conservation measures. According to Mr. Reed, revenue decoupling helps insure utility earnings at the allowed return but not above it, and therefore does not affect the value of utility assets.

In addition to the effects of the regulatory environment in Massachusetts, Mr. Reed examined the regulatory scheme applicable to transmission assets under FERC. He reported that similar to Massachusetts regulation, FERC has historically relied on cost-of-service regulation, where the allowed rate of return is applied to the net book value of plant assets. While the rates of return under FERC have been higher than those allowed under the state's jurisdiction, those returns reflect

the higher risks associated with transmission investments. Nonetheless, he asserted that in the context of valuing the assets for *ad valorem* tax purposes, since the allowed return is calculated as a return on the net book value of the assets, it is that net book value that establishes the fair market value of those assets. Mr. Reed further maintained that even though FERC has implemented certain incentives on a case-by-case basis in recent years, the allowed returns have been set at rates equal to what may be earned on similar investments of what it deems a comparable risk. Those rates of return have been applied to the net plant for determination of revenues. As a result, Mr. Reed stated that the net book value is the appropriate method for valuing NSTAR's FERC-regulated assets.

Apart from the regulatory environment, Mr. Reed also provided his opinion on the effect of utility-industry consolidation on the value of utility assets. In the case of the NSTAR/NU merger, Mr. Reed identified the drivers in that transaction as including greater diversification of markets and regulatory risk, enhancement of the combined companies' financial strength, improved ability to support needed infrastructure investments and to withstand economic volatility, providing geographic diversity and mutual support during storms or service disruption, and bringing together complementary strengths of the two companies to identify and implement best

practices across the merged company. He referred to some other reasons as including an increased voice in the development of national energy policy, an enhanced technical expertise through a broader and more diverse work force, and a better ability to make investments in new technologies and renewable energy.

Mr. Reed distinguished enterprise sales from transactions involving only transmission and distribution property ("asset transactions"). He testified that he was not aware of any asset transactions involving transmission and distribution property comparable to NSTAR's system occurring in New England, and while he was aware of some asset sales in other parts of the country, he stated that those "did not tend to take place at a price above book value." He also testified that when an acquisition premium - an amount paid for an enterprise above the net book value of the identifiable assets of the enterprise - is paid, such premiums are not allocable to individual assets and are not part of the asset value. Instead they are accounted for as an element of goodwill and are not included in the rate base because they are considered an intangible asset. Mr. Reed testified that after values are assigned to identifiable assets, what is left over is goodwill, that is the value which is not attributable to any other asset. According to Mr. Reed, acquisition premiums are paid because it is anticipated that the merger of the two enterprises will result in an improved

financial position or operating efficiencies that create cost savings. Mr. Reed posited that mergers are driven by management acumen and synergies in the transaction that create cost savings.

David Moody

David Moody, whom the Board qualified as an expert in appraising regulated public utility property, testified primarily about the content of and support for the values that he derived in his appraisal report, which was admitted into evidence. The appraisal report provides an overview of the relevant valuation principles upon which he relied and also contains the various valuation methodologies that he considered or used to estimate the value of the subject property for the fiscal years at issue. These methodologies were the sales-comparison approach, the income approach, and the cost approach.

In his sales-comparison approach, Mr. Moody first reviewed sources for the direct sale of electric utility systems and found none comparable. He then examined the NSTAR/NU merger and the payment terms, which involved an exchange of common stock. He determined that the relationship between the value of the common stock and the physical assets was "tenuous" because he believed that the value of the stock was subject to many other factors, including: the value of the debt; the overall status of the stock market; the ratio of debt to equity; the expertise of

management in directing the overall company; and NSTAR's ownership of another operating entity, NSTAR Gas Company. Moreover, he reported that "investors that purchase stock are looking for intellectual or intangible assets that create value above and beyond that of the physical assets . . . . [such as] business acumen, the potential for growth, or some other identifiable intangible asset."

Mr. Moody cited to and quoted various documents created or published in connection with the merger, which indicated that the DPU's approval of the NSTAR/NU merger was based on economic benefits accruing to ratepayers, such as a $12 million rate credit, a four-year base distribution freeze, and lower rates after 2015 than without the NSTAR/NU merger, as well as a lack of harm. Mr. Moody reported that the companies' rationales for the NSTAR/NU merger included: improved technical expertise; a broader, deeper, and more diverse workforce; better ability to invest in and deploy new technologies; improved service quality; increased voice in the development of national energy policy; greater diversification of markets and regulatory risk; and enhanced financial strength and flexibility. Mr. Moody concluded that the DPU's requirement that a share of any identifiable savings accruing from the NSTAR/NU merger be passed to ratepayers and that an analysis of NSTAR's rate of return be conducted to ensure that the NSTAR/NU merger does not lead to

any excess savings indicated that the NSTAR/NU merger did not increase the value of the subject property. Mr. Moody stressed that the amount by which the purchase price exceeded the fair value of the identifiable tangible and intangible (what he termed "regulatory") assets represented the value of the goodwill that the merger created, and that goodwill is an intangible asset and not taxable or recoverable. As stated in his report, so-called regulatory assets, however, are charged to utility customers and paid over time.

Mr. Moody also examined five transactions within the most recent five years of large regulated utilities that he deemed similar to the NSTAR/NU merger. These transactions included: (1) the merger of Allegheny Energy into FirstEnergy in a stock swap valued at $4.4 billion; (2a) the acquisition of Aguila's Colorado electricity assets and its natural gas assets in the states of Colorado, Iowa, Kansas, and Nebraska to Black Hills for $940 million cash; (2b) the acquisition of Aquila's Missouri electric utility operations by Great Plains Energy for $1.7 billion cash and stock; (3) the acquisition of Energy East by Iberdrola for $4.5 billion cash for stock; (4) the acquisition of Maine & Maritimes by Emera for $80 million cash for stock; and (5) the acquisition of Puget Energy by a consortium of investors led by Maquarie Group for $3.2 billion cash for stock. Mr. Moody observed that in each of these transactions, the

allocation of the purchase price to the regulated assets was based on those assets' original cost less depreciation.

Mr. Moody developed a discounted-cash-flow ("DCF") methodology for his income approach. In his opinion, it was the more appropriate method for measuring the present value of future cash flows when compared to a direct capitalization method. As he explained, DCF is based on a detailed projection of expected revenues and expenses, required capital expenses, and the effects of income taxes. Each future year's net income is discounted from that year to the valuation and appraisal date using a discount factor that is based on the market cost of capital. He found DCF to be particularly useful when wide variations exist from year to year in income and income tax liability. He also asserted that it is the method used by buyers and sellers in the marketplace for decision-making.

Mr. Moody's DCF methodology valued NSTAR's entire system or enterprise because that is how NSTAR records its operating and financial data. As a result, it was necessary for Mr. Moody to perform an allocation to determine the value of the subject property. To find his earnings approach indicator to the market value of NSTAR in total, he relied on NSTAR's annual report to FERC, in which all financial results are reported, and then projected them forward for a number of years into the future and

then discounted back to the appraisal date each year's results at what he claimed was a market derived discount factor.

To determine his discount factor or rate, Mr. Moody reported that he relied on publicly available financial information for stocks of large publicly traded electric utility holding companies listed in industry sources. The net-operating income that he used in his analysis did not include an allowance for property taxes that he instead included in his adjusted discount factor. The resulting overall discount factor, based on compounding the average millage rate for NSTAR of 3.192 percent with the weighted average cost of capital ("WACC"), based on the cost of Baa rated debt,[3] of 7.530 percent for fiscal year 2012 and 7.479 percent for fiscal year 2013, is 9.58 percent and 9.53 percent, respectively. The results of his DCF analysis, incorporating assumptions on revenue, operating and maintenance costs, and the discount factor produced an income approach indicator for the NSTAR system as a whole of $4,483,783,631 for fiscal year 2012 and $4,472,132,309 for fiscal year 2013.

In his RCNLD approach, Mr. Moody first trended the actual (original) costs of construction from the year of the subject property's installation to current price levels, as of the relevant valuation and assessment dates, using the *Handy-Whitman*

Index of Public Utility Construction Costs ("*Handy-Whitman Cost Index")* for the entire NSTAR Electric system and the facilities in Boston. From those amounts, he subtracted all elements of depreciation – physical, functional, and economic or external. Mr. Moody defined physical depreciation as "the loss of value due to wear and tear, normal service and exposure to the elements" and its measure as "the decrease in the present worth of service remaining in the unit," which can be ascertained by estimating "the remaining service compared to a new unit." He defined functional obsolescence "as a loss in value

[3] "Baa" is a credit rating assigned by Moody's, as a financial indicator to investors of debt securities such as bonds.

caused by factors inherent within the property itself that arise from changes in design materials or inefficient plant layouts, resulting in over or under capacity, lack of utility, or excess operating costs." He determined that the subject property exhibited no functional obsolescence. Mr. Moody defined external or economic depreciation as the concept that "takes into account the existence of any factor outside of the property itself that affects or limits the value of that property in the marketplace." Moreover, he noted "[t]he generally recognized method of measurement of the impact of external depreciation is to capitalize the income loss attributable to the negative influence." "In the case of utility property," according to Mr. Moody, "the external depreciation stems from regulation of the property's earnings." With respect to the subject property, Mr. Moody observed that NSTAR is subject to regulation by DPU, which limits the rates it can charge and the return that it can earn. Mr. Moody quantified external obsolescence by capitalizing the shortfall in earnings necessary to support the proposed investment. The following tables summarize Mr. Moody's calculation of external obsolescence.

Fiscal Year 2012

	NSTAR Electric
Reproduction Cost New Less Physical and Functional Depreciation	$6,889,561,711
Required Levelized Earnings at 9.58%	$ 660,020,012
Expected Levelized Earnings at 9.58% (Based on DCF Results)	$ 429,546,472
Earnings Deficiency	$ 230,473,540
Earnings Deficiency Capitalized at 9.58% - External Obsolescence	$2,405,728,980

External Obsolescence Factor	35%

Fiscal Year 2013

	NSTAR Electric
Reproduction Cost New Less Physical and Functional Depreciation	$7,391,309,187
Required Levelized Earnings at 9.58%	$ 704,391,766
Expected Levelized Earnings at 9.58% (Based on DCF Results)	$ 426,270,449
Earnings Deficiency	$ 278,121,316
Earnings Deficiency Capitalized at 9.58% - External Obsolescence	$2,918,376,878
External Obsolescence Factor	39%

The following tables summarize Mr. Moody's RCNLD methodology, which incorporates external obsolescence.

Fiscal Year 2012

	NSTAR Electric	Subject Property
Reproduction Cost New ("RCN")	$12,351,565,744	$3,643,497,294
Physical & Functional Depreciation	($ 5,462,004,034)	($1,584,313,346)
RCN Less Physical & Functional Depreciation	$ 6,889,561,710	$2,059,183,947
External Obsolescence @ 35%	($ 2,405,778,080)	($ 719,050,037)
RCN Less All Depreciation/Obsolescence	$ 4,483,783,631	$1,340,133,910

Fiscal Year 2013

	NSTAR Electric	Subject Property
RCN	$12,945,709,521	$3,643,497,294
Physical & Functional Depreciation	($ 5,554,400,334)	($1,584,313,346)
RCN Less Physical & Functional Depreciation	$ 7,391,309,197	$2,059,183,947
External Obsolescence @ 39%	($ 2,918,376,878)	($ 840,805,382)
RCN Less All Depreciation/Obsolescence	$ 4,472,932,309	$1,315,105,855

Mr. Moody also argued that since the revenues used to pay the cost of debt and return to investors of a public utility are regulated based primarily on the original cost less depreciation of property devoted to furnishing utility service, it follows that the earnings that any segment of the total property contributes to the total earnings of all of the property is in direct proportion to its rate base. The following tables summarize what Mr. Moody found to be the rate base for the total of NSTAR's electric property and that of the subject property.

Fiscal Year 2012

	NSTAR Electric	Subject Property
Original Cost	$5,510,231,273	$1,605,629,710
Depreciation Reserve	($1,545,553,867)	($ 450,700,003)
Original Cost Less Depreciation	$3,964,677,406	$1,154,929,707
Rate Base	$4,050,054,729	$1,154,929,707

Fiscal Year 2013

	NSTAR Electric	Subject Property
Original Cost	$5,837,142,394	$1,665,582,137
Depreciation Reserve	($1,637,258,106)	($ 483,469,050)
Original Cost Less Depreciation	$4,199,984,288	$1,182,113,087
Rate Base	$4,360,464,623	$1,182,113,087

Mr. Moody further observed that while some of his value indicators are directly applicable to the subject property, such as original cost less depreciation, others require an allocation to measure the value that the subject property contributes to the value of the NSTAR Electric system as a whole. The following tables summarize the factors that Mr. Moody analyzed in that regard.

Fiscal Year 2012

Factor	NSTAR Electric	Subject Property	Ratio
Revenue	$2,642,359,170	$ 662,823,834	25.1%
RCN Less Phys. & Funct. Depreciation	$6,889,561,710	$2,059,183,947	29.9%
RCN Less All Depreciation/Obsolescence	$4,483,783,631	$1,340,133,910	29.9%
Customers	1,157,000	264,888	22.9%
Sales	24,853,397	6,642,584	26.7%
Rate Base	$4,050,054,729	$1,154,929,707	28.5%

Fiscal Year 2013

Factor	NSTAR Electric	Subject Property	Ratio
Revenue	$2,633,057,952	$ 675,005,989	25.6%
RCN Less Phys. & Funct. Depreciation	$7,391,309,187	$2,155,911,237	29.2%
RCN Less All Depreciation/Obsolescence	$4,472,932,309	$1,315,105,855	29.4%
Customers	1,163,000	304,057	26.1%
Sales	24,508,428	6,605,543	27.0%
Rate Base	$4,360,404,623	$1,182,113,087	27.1%

For the adoption of a value indicator under his DCF income approach, Mr. Moody used the value derived for the NSTAR system as a whole and then applied an allocation factor to determine the contribution of the subject property. His analyses are summarized in the tables below.

Fiscal Year 2012

DCF of NSTAR Electric	$4,483,783,631
Allocation Factor (Rate Base)	28.5%
Value Indicator for Boston	$1,277,878,335

Fiscal Year 2013

DCF of NSTAR Electric	$4,472,132,309
Allocation Factor (Rate Base)	27.1%
Value Indicator for Boston	$1,211,947,856

Before reconciling the various values that Mr. Moody derived for the subject property using his different methodologies, he reviewed and attempted to dispel six potential reasons why an investor might pay more than the indicated values for the subject property. Those reasons included:

(1) the purchaser is unregulated and not subject to earnings restrictions;
(2) the actual return on the investment could be more than the allowed returns;
(3) the actual return could be more than that offered by alternative investments of comparable risk;
(4) there is a possibility of change in regulatory policies or governing law;
(5) there is the possibility of extraordinary growth in the service area; and
(6) the useful life of the subject property may exceed the depreciable life.

According to Mr. Moody: (1) there were no unregulated purchasers on the horizon; (2) the return was expected to stay within the range allowed by DPU; (3) if returns were found excessive, DPU would investigate the propriety of NSTAR's rates; (4) no changes in regulatory or governing laws were anticipated; (5) projections indicate that only minimal growth is anticipated; and (6) the use of a depreciation floor accounts for the subject property's useful life exceeding adopted depreciable lives.

For reconciliation purposes, the following tables summarize Mr. Moody's value indicators.

Fiscal Year 2012

Value Indicators	Results
Sales Comparison Approach	-
Income Approach (DCF)	$1,277,878,335
Cost Approach (RCNLD)	$1,340,133,910
Original Cost Less Depreciation (Rate Base)	$1,154,929,707

Fiscal Year 2013

Value Indicators	Results
Sales Comparison Approach	-
Income Approach (DCF)	$1,211,947,856
Cost Approach (RCNLD)	$1,315,105,855
Original Cost Less Depreciation (Rate Base)	$1,182,113,087

Mr. Moody found that the values derived from his DCF approach and the subject property's net book value or rate base were the most relevant indicators of value. However, under the existing regulatory circumstances, Mr. Moody considered the subject property's net book value to be the strongest indicator of the subject property's value and he gave it the most weight in

assigning a rounded value of $1,200,000,000 to the subject property for both fiscal years at issue.

The Assessors' Case-in-Chief

The assessors' case relied primarily on the testimony and appraisal report of George Sansoucy, their criticisms of NSTAR's case, and their analysis of the regulatory setting and continued existence of ***Watertown*** factors and other special circumstances that could induce a buyer to pay more than net book value for the subject property. Mr. Sansoucy considered multiple valuation approaches for valuing the subject property for the fiscal years at issue, including original cost less depreciation (net book), RCNLD, a comparable-sale method that produced various indicators, and several income approaches. He ultimately chose the RCNLD methodology as his primary method of valuation for the subject special purpose property because it "comes the closest to a satisfactory method of appraisal." He then reconciled the value that he achieved from his cost approach with the values that he developed using income and comparable-sales approaches. Once reconciled, he determined if it was appropriate to subtract any additional economic or functional obsolescence, as measured by the results of his income and market-sales approaches - from the physical and functional obsolescence that he found in his cost approach - to arrive at a final estimate of value.

George Sansoucy

Mr. Sansoucy's first step in applying his cost approach was to calculate the cost new of the subject property. To do that, he relied principally on the original or historic costs from NSTAR's records for the FERC categories of property that comprised the subject property, and he then trended the costs from each of those categories with a factor obtained from a nationally recognized trend index - the *Handy-Whitman Cost Index*. Mr. Sansoucy then considered the extent to which the three basic forms of depreciation – physical, functional, and economic – might apply. With respect to functional obsolescence, he determined, like Mr. Moody, that the subject property "generally functions as it is designed to, and, therefore, does not suffer significant functional obsolescence." In developing estimates for each category of the subject property's useful lives, he considered their materials and designs, regulatory service lives, age, and observable condition. He also maintained that he relied on several industry studies as well as independent studies that he performed on the useful lives of distribution poles. The following table summarizes Mr. Sansoucy's determination of useful lives for each FERC account that he decided was an appropriate category for the subject property.

Mr. Sansoucy's Estimated Useful Lives

FERC Acct.	AUS Acct.	Description	Estimated

			Useful Life
311	n/a	352-Structures & Improvements	90
311	n/a	361-Structures & Improvements	90
353	n/a	Station Equipment	65
354	n/a	Towers & Fixtures	90
355	n/a	Poles & Fixtures	75
356	n/a	Overhead Conductors & Devices	75
357	n/a	Underground Conduit	75
358	n/a	Underground Conductors	75
362	n/a	Station Equipment	65
364	n/a	Poles, Towers & Fixtures	60
365	n/a	Overhead Conductors & Fixtures	60

Mr. Sansoucy's Estimated Useful Lives (continued)

366	n/a	Underground Conduit	60
367	n/a	Underground Conductors & Devices	60
368	n/a	Line Transformers	50
369	n/a	Services	50
370	n/a	Meters	30
373	n/a	371-Installations on Customers' Premises	40
373	n/a	Street Lighting & Signals	40
315	n/a	397-Communication Equipment	30
n/a	2123	397-Communication Equipment	10
n/a	2124	397-Communication Equipment	7
n/a	2220	397-Communication Equipment	10
n/a	22312	397-Communication Equipment	30
n/a	24212	397-Communication Equipment	30

Because useful lives are not equivalent to absolute physical lives, Mr. Sansoucy applied a 20-percent floor for property still in use recognizing the cash flow that this property generates at any age and also its embedded value "representing a portion of cost for permitting, design, construction, placement, engineering, and other indirect costs associated with replacing a retired component." The following table summarizes the values that Mr. Sansoucy derived for the subject property using his reproduction cost new less physical and functional depreciation methodology, that he then compared

to values which he developed using sales-comparison and income approaches.

Summary of Mr. Sansoucy's Cost Approach

Fiscal Year	Original Cost	RCN	RCNLD
2012	$1,748,956,889	$3,565,691,700	$2,338,260,300
2013	$1,842,866,043	$3,838,470,900	$2,495,888,400

In discussing his sales-comparison approach, Mr. Sansoucy initially observed that NSTAR is the product of a consolidation of four utilities: Boston Edison, Cambridge Electric, Canal Electric, and Commonwealth Electric. NSTAR was then itself purchased by NU as of April 10, 2012 and operates as a wholly owned subsidiary of NU, a utility holding company based in Berlin, Connecticut. The announcement date of the sale was October 16, 2010. The sale was a stock-for-stock swap and an assumption of debt.

For comparable sales, Mr. Sansoucy focused on seven utility sales analyzing what he considered to be relevant information in their publicly reported financial statements, news statements, and regulatory filings to separate and assign transactional values to the related tangible and intangible property. As reported by him:

(1) Comparable sale 1 was Gaz Metro Limited Partnership's 2007 acquisition of Green Mountain Power, which serviced 92,000 electricity customers, for $294,765,720, including $109,000,000 in assumed debt;

(2) Comparable sale 2 was Iberdrola, S.A.'s 2008 acquisition of Energy East Corporation, which serviced 2,751,000 customers, for a cash purchase of stock at $28.50 per share and the assumption of more than $4 billion in debt;

(3) Comparable sale 3 was Puget Holdings, LLC's 2009 purchase of Puget Energy, Inc., which serviced approximately 6,000 square miles of territory in the Washington state area, for a total consideration of $6,708,978,670;

(4) Comparable sale 4 was a 2010 sale of E.O.N AG to PPL Corporation, which brought thirteen U.S. wind farms and 1900 megawatts ("MWs") of electric generating capacity to the sale, for a total price of $7,625,000,000;

(5) Comparable sale 5 was the 2012 sale of NSTAR, which served approximately 1.1 million electric distribution customers in eighty-two communities throughout Massachusetts, to NU for a total consideration of $7,222,249,302 which included stock consideration valued at $5,038,248,302 plus assumption of debt;

(6) Comparable sale 6 was the 2012 two-step transaction in which Gaz Metro Limited Partnership purchased Central Vermont Public Service Corporation ("CVPS") as well as

approximately 38 percent of CVPS's voting common equity ownership in Vermont Electric Power Company, Inc. ("VELCO"), followed by the merger of CVPS into Green Mountain Power Corporation ("Green Mountain Power"). CVPS had approximately 179,500 retail electric customers spread throughout 163 Vermont locales. After the conveyance, Green Mountain Power's VELCO ownership was reduced to approximately 40 percent. The total purchase consideration of approximately $729.2 million consisted of $481.2 million in cash for outstanding stock, a $19.5 million reimbursement fee for termination of a previous merger agreement between CVPS and Fortis USA, Inc., and the assumption of approximately $228.5 million in debt; and

(7) Comparable sale 7 was the 2013 sale of Central Hudson Gas and Electric, which maintained three small hydroelectric facilities and two small peaking facilities for a total capacity of 66 MWs, to Fortis USA, Inc. for cash in exchange for stock and assumption of debt totaling $1,491,298,610.

In analyzing these sales, Mr. Sansoucy relied on six different units of comparison: sale price/customer; net plant/customer; gross revenue/customer; sale price/gross

revenue; sale price/adjusted net book value; and sale price/EBITDA. The rows in the following table summarize the mean and median of these indicators, respectively.

Electric Plant Sale Indicators

Sale Price/ Customer	Net Plant/ Customer	Gross Revenue/ Customer	Sale Price/ Gross Revenue	Sale Price/ Adj. Net Book	Sale Price/ EBITDA
$4,210	$3,234	$2,045	2.07	1.30	9.58
$4,031	$3,137	$1,994	2.04	1.29	9.78

Of these indicators, Mr. Sansoucy opined that the sale-price-to-gross-revenue and sale-price-to-adjusted-book-value ratios were the most useful for his sales approach analysis. Mr. Sansoucy revised the adjusted net book value of the subject property as reported by NSTAR because NSTAR used a system-wide depreciation schedule, which Mr. Sansoucy argued, underestimated the value of the subject property in Boston because Boston had a disproportionate amount of new property and the depreciation schedule used by NSTAR measured service as opposed to useful lives. The following table summarizes Mr. Sansoucy's values for the subject property for the fiscal years at issue using a sale-price-to-gross-revenue ratio of 2.6 and a sale-price-to-adjusted-net-book ratio and sale-price-to-revised-adjusted-net-book ratio of 1.6, both of which Mr. Sansoucy primarily based on the comparable 2.46 and 1.51 ratios from the NSTAR/NU merger. Mr. Sansoucy considered the subject property's Boston location superior to that of the rest of the NSTAR system because it had

more usage per customer and more revenue per customer, as well as a more compact system with more growth potential.

Mr. Sansoucy's Sales Comparison Values Using Selected Ratios[4]

	Sale Price/ Gross Revenue	Sale Price/ Adj.Net Book	Sale Price/Rev. Adj. Net Book
Fiscal Year 2012	$1,723,000,000	$1,847,888,000	$2,093,155,000
Fiscal Year 2013	$1,755,000,000	$1,891,381,000	$2,190,000,000

Mr. Sansoucy utilized the sale-price-to-EBITDA ratio in his income approach as a metric for a market derived direct capitalization rate.

For his three income capitalization approaches - direct capitalization, yield capitalization, and regulatory capitalization - Mr. Sansoucy reported that he examined revenue and expense figures reported on NSTAR's FERC Form 1, as well as information gleaned from DPU data and obtained in the discovery phase of this litigation. Excluding sales for resale, Mr. Sansoucy determined that Boston represented 27 percent of NSTAR's total revenue during the relevant time-period, and, on a weighted basis, Boston's revenue per customer was 5.4 percent greater than the balance of NSTAR's customers. Mr. Sansoucy

[4] Mr. Sansoucy's sales-valuation indicators erroneously contain the value of NSTAR's Boston real estate, which is not at issue in these appeals. If the assessed values of NSTAR's Boston real estate are subtracted, the resulting values are:

	Sale Price/ Gross Revenue	Sale Price/ Adj. Net Book	Sale Price/Rev. Adj. Net Book
Fiscal Year 2012	$1,658,487,600	$1,783,375,600	$2,028,642,600
Fiscal Year 2013	$1,675,385,300	$1,811,766,300	$2,110,385,300

also determined that the weighted average cost of capital during the relevant time-period was 7.87 percent, which he based on NSTAR's regulatory earnings collar that provided for an allowable range of return on equity, after tax, of 8.5 percent to 12.5 percent - that is 2 points on either side of the intended 10.5 percent target - along with approved debt costs of 5.24 percent on a 50/50 debt-to-equity ratio.

In his direct capitalization methodology, Mr. Sansoucy calculated his value estimate by applying his EBITDA multiplier to the allocated EBITDA or cash flow for NSTAR's property in Boston. Mr. Sansoucy selected an EBITA multiplier of 10 based on the 9.58 mean and 9.78 median that he developed using his 7 selected transactions and his opinion that the Boston property, if sold separately from the balance of the system, would command a premium EBITDA multiplier in the marketplace because of its superior economics, compact electric operation, greater than average energy sales, greater than average revenue per customer, as well as Boston's vibrant economy and growth, new customers, and likely continued growth. Mr. Sansoucy's EBITDA multiplier of 10 is also intended to reflect 17 percent greater energy sales and 5 percent greater revenue per customer in Boston. His allocated EBITDA of approximately 29 percent to 30 percent of NSTAR's total or gross revenue is based on revenue figures from

NSTAR and his own market study of regional utility EBITDAs. The following table summarizes this approach.

Mr. Sansoucy's Direct Capitalization Approach

Fiscal Year 2012 - $198,847,150 x 10 = $1,988,471,150 or **$1,988,000,000** (rounded) **Fiscal Year 2013** - $202,501,797 x 10 = $2,025,017,970 or **$2,025,000,000** (rounded)

In his yield capitalization methodology, Mr. Sancoucy attempted to convert future benefits into present value by discounting each future benefit by an appropriate yield rate. He assumed two types of potential buyers for the subject property – a regulated utility similar to NSTAR or an unregulated utility such as a cooperative, municipal purchaser, or power authority. Summaries of Mr. Sansoucy's assumptions and results from his DCF methodology are summarized in the following two tables, which are near reproductions of his tables.

Mr. Sansoucy's Fiscal Year 2012 Assumptions & Results of his DCF[5]

	Regulated Buyer	Unregulated Buyer
DCF Value	**$1,664,943,800**	**$2,378,635,200**
Implied Capitalization Rate	**11.9%**	**7.0%**
Total Revenue	**$662,823,834**	**$662,823,834**
Total Expenses	**$463,976,684**	**$497,117,876**
EBITDA	**$198,847,150**	**$165,705,959**
Operating Expenses as % of Revenue	70.0%	75.0%
Financial Assumptions		
Capital Structure: % Debt	50.00%	100.00%
Capital Structure: % Equity	50.00%	0.00%
Debt Interest rate	5.24%	5.24%
Pre-Tax Cost of Equity	17.50%	0.00%
Effective Property Tax %	3.00%	3.00%
Pre-Tax Weighted Average Cost of Capital	14.37%	8.24%
"Rounded"	14.40%	8.20%
Terminal Capitalization Rate	12.00%	12.00%
Inflation Rate	2.50%	2.50%

Mr. Sansoucy's Fiscal Year 2013 Assumptions & Results of his DCF

	Regulated Buyer	Unregulated Buyer
DCF Value	**$1,695,544,100**	**$2,422,352,600**
Implied Capitalization Rate	**11.9%**	**7.0%**
Total Revenue	**$675,005,989**	**$675,005,989**
Total Expenses	**$472,504,192**	**$506,254,492**
EBITDA	**$202,501,797**	**$168,751,497**
Operating Expenses as % of Revenue	70.0%	75.0%
Financial Assumptions		
Capital Structure: % Debt	50.00%	100.00%
Capital Structure: % Equity	50.00%	0.00%
Debt Interest rate	5.24%	5.24%
Pre-Tax Cost of Equity	17.50%	0.00%
Effective Property Tax %	3.00%	3.00%
Pre-Tax Weighted Average Cost of Capital	14.37%	8.24%
"Rounded"	14.40%	8.20%
Terminal Capitalization Rate	12.00%	12.00%
Inflation Rate	2.50%	2.50%

In developing his regulatory capitalization approach, Mr. Sansoucy challenged the assertion that regulated utility property is limited to its net book value. He posited that

[5] During his re-direct examination, Mr. Sansoucy submitted a revised discounted cash flow analysis for fiscal year 2012, in which he tried to

there are other cash flow streams that produce value for the utility and its stockholders that would be considered by any buyers of utility property. In addition to the return on net book, rate payers also pay the company an amount calculated as a depreciation charge; accordingly, in its recovery of "expenses," the company receives its return of investment in addition to its return on investment. The return of the investment through depreciation is expensed in the electric rates charged and not loaded into the regulatory rate of return. Moreover, with regulated utility property, the regulators also add into electric rates additional charges to the rate payers to reimburse the utility for income taxes it theoretically incurs on this return. This addition results in the rate payers reimbursing the company at the full state, local, and federal rates on earnings on the book cost. However, because the utility is taking accelerated depreciation on its tax return, it generally pays less in cash income taxes than it will collect from the rate payers. Although this technically only defers the federal income tax, if the utility continues to invest in its property, this deferral will continue for decades, essentially generating free cash, which amounts to an interest free loan. Furthermore, the regulators also increase cash flow from rate payers by allowing rates to include an amount representing

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account for certain but not all discrepancies revealed during cross-

working capital for the utility. Mr. Sansoucy posited and provided an example whereby regardless of the "allowed" rate of return, utilities generally collect between 15 cents and 20 cents of every dollar invested every year through reimbursement of depreciation, money for working capital, payments in anticipation of income taxes on earnings, as well as the return on debt and return on earnings on the remaining investment. His discounted cash flow analysis, which included the total stream of revenue benefits inuring to NSTAR from the subject property, was intended to demonstrate that utility property sells at a multiple of its book value - in this case a multiple of 1.43 of book value – based on a rounded book cost of $1,155,000,000 and a rounded total present value of cash flows of $1,649,000,000. Mr. Sansoucy concluded that due to the superior revenue generation, electric sales, growth potential in Boston, and the compact nature of the franchise for operations and maintenance, a regulatory capitalization rate of at least 1.6 times book value would be appropriate for the subject property. Therefore, he estimated the value of the subject property for the fiscal years at issue using this methodology at $1,847,888,000, which is 1.6 times the reported book value of the subject property.

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examination.

The following tables summarize the values that Mr. Sansoucy derived using his yield capitalization, regulatory capitalization, and direct capitalization approaches.

Mr. Sansoucy's Income Approach Values for Fiscal Year 2012

Yield Capitalization – Regulated Buyer	$1,664,943,800
Yield Capitalization – Unregulated Buyer	$2,378,635,200
Regulatory Capitalization	$1,847,888,000
Direct Capitalization	$1,988,000,000

Mr. Sansoucy's Income Approach Values for Fiscal Year 2013

Yield Capitalization – Regulated Buyer	$1,695,544,100
Yield Capitalization – Unregulated Buyer	$2,422,352,600
Regulatory Capitalization	$1,847,888,000
Direct Capitalization	$2,025,000,000

A summary of the estimated market values for the subject property derived by Mr. Sansoucy's valuation methods is contained in the following table.

Method of Valuation	Fiscal Year 2012	Fiscal Year 2013
Cost Approach	$2,338,260,300	$2,495,888,400
Sales Comparison Approach		
Gross Revenue Indicator	$1,723,000,000	$1,755,000,000
Book Multiplier Indicator	$1,847,888,000	$1,891,381,000
Revised Book Multiplier Indicator	$2,093,155,000	$2,190,000,000
Income Capitalization Approach		
Yield Capitalization – Regulated Buyer	$1,664,943,800	$1,695,544,100
Yield Capitalization – Unregulated Buyer	$2,378,635,200	$2,422,352,600
Direct Capitalization Market Derived	$1,988,000,000	$2,025,000,000

Mr. Sansoucy determined that the average values of the seven indicators are $1,934,787,143 for fiscal year 2012 and $1,975,309,386 for fiscal year 2013, which he reconciled at $1,950,000,000 for each of the fiscal years at issue. Mr.

Sancoucy then subtracted this reconciled value from the value that he derived for the subject property using his cost approach to calculate the 17 percent and 22 percent indicated economic obsolescence value for his cost approach for fiscal years 2012 and 2013, respectively. Accordingly, Mr. Sansoucy estimated the value of the subject property at $1,950,000,000 for each of the fiscal years at issue.

Relevant Regulatory Decisions

As a joint submission, the parties entered into the record an "appendix" of essentially all the relevant regulatory decisions from the DPU from 1993 to 2010, along with several other such decisions from other jurisdictions. The assessors asserted that existing legal and regulatory framework demonstrates that: (1) the DPU's ***Watertown*** era policy of refusing to permit recovery of any premium above net book that is paid has been abandoned; (2) the DPU has affirmatively allowed the recovery of money spent above net book or has effectively allowed it in situations where the buyer reserves the right to seek the premium once the predicted savings from the transaction have materialized and rates stay constant ("rate freeze") while expenses drop; (3) the DPU has continued to express a policy of considering purchase price recovery, on a case-by-case basis, particularly when the proposed transaction leads to a public benefit; (4) in the case of certain proposed utility transactions, the DPU has justified its approval on the ground that the buyer would otherwise walk away and the benefits to the ratepayers would be lost; (5) even if the amount of the seller's net book is all that goes into the buyer's rate base, the premium may be recaptured as a regulatory asset or by allowing the buyer to keep savings or other benefits of the

transaction; and, lastly, (6) buyers consistently pay more than net book to acquire utility assets.

The assessors asserted that the regulatory and legal landscape has remained essentially unchanged since the Supreme Judicial Court characterized the DPU as having "declared its abandonment of a strict carry-over rate base policy," which "amply demonstrate[s] the type of regulatory change anticipated in ***Watertown***, justifying the use of a valuation methodology other than net book value." ***Boston Gas/SJC***, 458 Mass. at 724. ***Boston Gas/SJC*** involved an appeal from a fiscal year 2004 valuation.

The assessors reviewed the several relevant DPU decisions since then: ***Joint Petition of Boston Edison Co., Cambridge Electric, et al.*** D.T.E. 05-85 ("***05-85***"); ***Joint Petition of Boston Edison Co., Cambridge Electric, et al.*** D.T.E. 06-40 ("***06-40***"); and ***Joint Petition for Approval of Merger Between NSTAR and Northeast Utilities*** DPU 10-170B ("***10-170-B***"). In ***05-85*** the companies sought approval of a rate settlement in lieu of a rate base proceeding. The settlement provided for a rate increase and a "Simplified Incentive Plan" – a form of performance based rates – as well as an earnings sharing mechanism under which the ratepayers and NSTAR would share an excess return on equity. DPU approved the settlement and announced that "[a]llowing a settlement that departs in some particular from an enunciated

department policy may occur where to so allow can accommodate the greater good." ***05-85*** at 30.

The purpose of ***06-40*** was to officially merge four enterprises, which had already been operating under the NSTAR umbrella, into a single electric company – NSTAR Electric Company. From an informational standpoint, the decision to allow the merger disclosed that there had been an aggregate savings of $314 million realized as of December 31, 2002 from the 1999 operational consolidation, as well as projected savings of $630 million associated with the creation of NSTAR in 1999. The decision also revealed that Boston Edison's last fully adjudicated rate base proceeding was in 1992 - *Boston Edison Company*, DPU 92-92 (1992) - ***06-40*** at 66.

10-170-B concerns the NSTAR/NU merger, which was based on a settlement. The intent was for "both customers and shareholders receive the full value" of the merger. While the companies promised not to "make any accounting adjustment that has the result of increasing the net book value of the utility assets for ratemaking purposes," other financial benefits would nonetheless accrue to them, such as the ability to retain all of the savings created by the merger until some future rate case might be convened. The DPU expressed its concern in this regard acknowledging that no rate case had occurred since 1992 and "for ratepayers to see lower costs from merger savings a rate case

must occur after those savings have been incurred and incorporated into a company's cost of service." ***10-170-B*** at 62.

The assessors further emphasized that NSTAR has been using a return on equity rate of 10.5 percent for many years. That allowed

rate of return includes a collar of 200 basis points around the 10.5 percent rate, which permits NSTAR to make up to a 12.5 percent return, with any return above 12.5 percent being split 50/50 with the shareholders. Both Value Line,[6] which shows returns on NSTAR common equity ranging from 12.8 percent to 13.8 percent in the previous ten years and projections of 13 percent, 14 percent, and 15 percent for fiscal years 2011 through 2013, respectively, and Mr. Reed's figures which place the returns at over 10.5 percent in every year but one, demonstrate that NSTAR's return on equity was and is predicted to be consistently higher than 10.5 percent, rendering the value of the underlying assets significantly higher than their net book or rate base value.

The assessors also addressed various other changes or purported changes to the regulatory setting since ***Boston Gas/SJC*** suggested by NSTAR. First, Mr. Reed reported that PBR plans had ended, and NSTAR had agreed in a settlement to end its PBR plan. In ***Boston Gas/Board***, the Board had found that performance-based

rates were a regulatory change since ***Watertown*** that "in many instances will affect the price of utility property." ***Boston Gas/Board,*** Mass. ATB Findings of Fact and Reports at 2009-1289. The Supreme Judicial Court agreed. ***Boston Gas/SJC***, 458 Mass. at 724 n. 17. Notwithstanding Mr. Reed's assertion, the DPU has not issued any formal policy statement announcing its abandonment of PBR. But, even assuming PBR has been abolished, the assessors suggested that the "earnings sharing" mechanism under which NSTAR operates would make an investment in the subject property similarly attractive. *See* ***05-85*** discussed *supra*.

The assessors further maintained that under the case-by-case treatment afforded by the DPU, it has permitted improved post-merger earnings to be "shared" between the shareholder and the ratepayer. These shared earnings are used to amortize transaction costs but can also be kept beyond that. In 2005, for example, DPU approved a rate plan settlement in connection with the Boston Edison/Cambridge Electric merger. ***Id.*** The rate plan included an allowed rate of return of 10.5 percent. However, the approved settlement set a "collar" by which Boston Edison could earn up to 12.5 percent. ***05-85*** at p. 5. This earning already exceeded what the supposed market for an equivalent risk would be (10.5%) but that rate plan also put in

[6] Value Line is an independent investment research and financial publishing

place an "earnings sharing mechanism" whereby if "NSTAR Electric's aggregate return on equity ('ROE') for distribution service . . . exceeds 12.5 percent, ratepayers and NSTAR Electric will share the excess ROE on a 50:50 basis." ***Id.*** As Mr. Moody testified: "In recent years, they have an agreement with the commission that if you can produce more benefits, then you will be allowed to earn more." Therefore, the assessors claim that the DPU policy expressly permits earning a rate of return higher than that found necessary to attract capital, which might induce a buyer to pay more than rate base. Here "[t]he return actually being earned by the utility may exceed or be expected to exceed the rate of return approved in the allowed rate, thus tending to encourage a buyer to pay more than rate base." ***Watertown***, 387 Mass. at 305-06. The assessors posit that effectively, earnings sharing, which allows a company to exceed its allowed rate of return upon successful implementation of cost cutting, is PBR in the merger context. In other words, it presents the same economics as described by the Supreme Judicial Court in support of its agreement with the Board in ***Boston Gas/SJC*** that PBR was a special circumstance contemplated in ***Watertown*** justifying a valuation methodology beyond net book. "A buyer who anticipates being able to perform more efficiently than is contemplated by the productivity adjustment could thus

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firm.

earn a higher return than otherwise would be available under existing rate regulation." ***Boston Gas/SJC***, 458 Mass. at 724 n. 17. In fact, the assessors point out that the DPU has declined to approve earnings sharing because a company is under PBR. *See, e.g.*, ***06-40*** at 17 n. 14.

The assessors emphasized another factor that leads to the recovery of earnings above those supposedly fixed by the DPU, which stem from profits rooted in the considerable savings that have been generated by utility sales transactions - until these savings are subject to earnings sharing, the company keeps them. NSTAR is the product of Boston Edison buying three other utility companies. As of 2006, NSTAR's original 1999 estimated savings from that transaction "exceeded $100 million per year," ***06-40*** at 16, n. 13, and, as of the date of the hearing in these appeals, it has yet to be shared with the ratepayers. As the DPU acknowledged: "savings [cost reductions resulting from mergers] accrue to shareholders from the time such savings are achieved until the next rate case." ***10-170-B*** at 61. By agreeing to "rate freezes," the companies have successfully avoided rate cases.

The assessors further maintained that, since ***Watertown***, there have been "large and growing pools of capital" from hedge funds, pensions plans, and wealthy investors looking to invest in utilities and their property for the high returns and

relatively low risk. ***In the Matter of the Joint Application of Puget Holdings LLC and Puget Sound Energy***, Washington State Utilities and Transportation Commission Docket U-072375 ("***Puget***") at 59. The 2005 repeal of the Public Utility Holding Company Act of 1935 ("PUHCA") eliminated numerous obstacles to consolidation of the electric and gas industry by allowing companies operating in geographically diverse markets to merge and by allowing non-utility-regulated enterprises to invest in public utilities without having to divest unrelated holdings. Thakar, Nidhi, ***The Urge to Merge: A Look at the Repeal of the Public Utility Holding Company Act of 1935***, Lewis and Clark University (2008), pgs. 905, 933-34. The repeal has attracted outside investors to the industry with "some perceiving convergence opportunities, some looking for the earning stability of regulated utilities, and others – pursuing a 'buy low, sell high' strategy – hoping to turn a quick profit on the assets." ***Id.*** at 934 (citation omitted).

The ***Puget*** transaction discussed by Mr. Sansoucy is an example of how the "new money" and shrewd financial maneuvering has resulted in returns exceeding the allowed rate of return. Puget Sound Energy was purchased by a Canadian pension fund and infrastructure investors from Australia. The buyers created a holding company ("Puget Holdings") to inject over $3.4 billion in equity and then take the company private and de-list it from

the stock exchange. ***Puget*** at 16. The regulators would permit the equity investment to earn a return of 10 percent. The investors borrowed an additional $850,000,000 at the holding company level and then invested it as equity into the operating company. ***Puget*** at 69-70. These funds would earn at the rate of 10 percent but only cost an estimated 5 percent; thereby producing a return to the investors substantially in excess ($42 million) of the rate of return "allowed" at the operating company level since their equity return greatly exceeded their debt cost. As described by the Washington State Utilities and Transportation Commission (the "UTC"), this approach would "achieve a higher internal rate of return at the Puget Holdings level without affecting at all the rates paid by PSE ratepayers." ***Puget*** at 8. Since the UTC concluded that ratepayers would be protected from exposure to the leverage, it determined that the investors "are entitled to the benefits of their election to take on the full risks of assuming debt to acquire equity." ***Puget*** at 75. Even though the investors in ***Puget*** agreed to carry over the rate base and not seek their transactional expenses, they nonetheless will earn substantially more than the return "allowed."

Lastly, the assessors posited that there have been numerous other changes to rate regulation since ***Watertown***, further demonstrating that utility regulation is not premised on certain

immutable concepts incapable of change, including: customer savings initiatives, which is another method of splitting extra revenues between ratepayers and shareholders; automatic inflation adjustments to permit recovery of increased expenses without filing new rate cases; capital cost adjustment mechanisms that help overcome so-called regulatory lag; and, most recently, decoupling that is beginning to permit utilities to reach their allowed returns irrespective of customer energy usage. Decoupling is designed to eliminate the disincentives that utilities might have to promote conservation measures.

In sum, the assessors maintained that since ***Watertown*** and into the time period relevant to these appeals: the DPU has abandoned its policy of refusing to permit recovery of any premium paid above net book; the DPU has affirmatively allowed the recovery of money spent above net book or has effectively allowed it in situations where the buyer reserves the right to seek the premium once the predicted savings from the transaction have materialized and rates stay constant ("rate freeze") while expenses drop; the DPU has continued to express a policy of considering purchase price recovery, on a case-by-case basis, particularly when the transaction leads to a public benefit; in the case of certain proposed utility transactions, the DPU has justified its approval on the ground that the buyer would otherwise walk away and the benefits to the ratepayers would be

lost; even if the amount of the seller's net book is all that goes into the buyer's rate base, the premium is recaptured by allowing the buyer to keep savings or other benefits of the transaction; and, lastly, buyers consistently pay more than net book to acquire utility properties.

The Board's Ultimate Findings of Fact

Based on all the evidence, the Board agreed with the assessors and Mr. Sansoucy that factors referenced in ***Watertown***, or equivalent factors continue to exist within the regulatory and legal landscape affecting regulated utilities in the Commonwealth, which could encourage a buyer to pay more than net book cost for regulated utility assets like the subject property. The Board credited Mr. Sansoucy's observations in finding that there are cash flow streams that produce value for regulated utilities and their stockholders that would be considered by any buyers of regulated utility property.

As Mr. Sansoucy explained, in addition to the return on their investment, regulated utilities also receive a return of their investment through depreciation that is expensed in the electric rates charged and not loaded into the regulatory rate of return.

The Board further credited Mr. Sansoucy's observation that additional charges are added into electric rates to reimburse regulated utilities for anticipated income taxes. However,

because regulated utilities take accelerated depreciation on their returns, they generally collect more from the ratepayers than they actually pay as tax. This deferral of federal income tax, which can last for decades if the utilities continue to invest in their property, effectively generates more free cash. The Board also accepted Mr. Sansoucy's observation that rates include an amount representing working capital, further increasing regulated utilities' cash flow. The Board found that, regardless of the rate of return, these other cash flow streams would likely serve to induce a buyer of regulated utility property to pay more than the net book value of that property.

Moreover, the Board concurred with Mr. Sansoucy's conclusions that the compact nature of and recent improvements to the subject property, which consists of the Boston component of the NSTAR electric property, present significant opportunities for growth and improved revenues. Indeed, during the relevant time period, that growth and increased revenue potential manifested themselves to some extent.

The Board additionally credited the assessors' review and analysis of the regulatory and legal setting during the relevant time period. Beginning with ***Boston Gas/SJC***, the Board agreed with the assessors and found that the Supreme Judicial Court's characterization of the DPU as having "declared its abandonment

of a strict carry-over rate base policy," was still the law and, accordingly, still "justif[ied] the use of a valuation methodology other than net book value," in the appeals at issue. ***Boston Gas/SJC***, 458 Mass. at 724. The Board further found that the assessors' discussion of several DPU decisions since ***Boston Gas/SJC*** - ***05-85***, ***06-40***, and ***10-170-B*** – were instructive and provided additional support for applying "a valuation methodology other than net book value." In particular, in ***05-85***, the DPU approved a settlement in lieu of a rate base proceeding that provided for a rate increase, an incentive plan, and a mechanism for sharing any excess return on equity between ratepayers and NSTAR. In addition, the DPU acknowledged in the decision that it might allow a settlement "that departs in some particular from an enunciated Department policy . . . to . . . accommodate the greater good." ***05-85*** at 30.

In ***06-40***, it was disclosed that the 1999 operational consolidation of four different companies into NSTAR resulted in an aggregate savings of $314 million over three years, as well as a projected savings of $630 million. In ***10-170-B***, which is the NSTAR/NU merger, the settlement allowed the company to retain all savings accrued from the merger until some future rate case might be convened. As of the date of the hearing associated with these appeals, there has been no rate case since 1992. The Board found that incentive plans, sharing mechanisms,

and the ability to retain savings for significant periods of time before any sharing with ratepayers might occur could induce a buyer to pay more than net book value for regulated utility property like the subject property.

Moreover, the Board found that the data from Value Line showing returns on NSTAR common equity as ranging between 12.8 percent and 15 percent for the past ten years and several years into the future; Mr. Reed's figures which consistently place NSTAR's returns over 10.5 percent; the 200 basis point rate collar, which allows NSTAR to make returns up to 12.5 percent; and NSTAR's 50:50 split with ratepayers of any returns greater than 12.5 percent, all support a finding that NSTAR's return on equity was and is predicted to be consistently higher than its longstanding 10.5 percent approved return, rendering the value of NSTAR's underlying distribution and transmission property significantly higher than its net book value. This example also supports a finding consistent with the exceptions listed in ***Watertown***, 387 Mass. at 305-06, that DPU policy expressly permits earning a rate of return higher than that found necessary to attract capital (10.5 percent here), "tending to encourage a buyer to pay more than rate base."

The Board also agreed with the conclusions that the assessors drew from their analysis of the clever financial maneuverings approved by the regulatory authority in Washington

State to purchase the utility company in the ***Puget*** transaction. Essentially, the investors borrowed a large amount of money at 5 percent at the holding company level and then invested it as additional equity in the operating company earning 10 percent thereby producing a return well in excess of that "allowed" at the operating company level. Once again, the ability to earn a higher rate of return supports a finding that the value of the underlying assets is greater than their rate base.

Lastly in this regard, the assessors discussed several other changes to rate regulation since ***Watertown***, such as customer savings initiatives, automatic inflation adjustments, capital cost adjustment mechanisms, and decoupling, for the proposition that utility regulation is not immutable and is subject to change. The Board concurred.

Mr. Moody, NSTAR's valuation expert, conducted three valuation analyses in addition to his use of net book – sales, RCNLD, and DCF. Mr. Moody investigated but did not develop a value using a sales approach and did not rely on the value derived from his RCNLD approach. Rather, he relied primarily on the net book value of the subject property and secondarily, on the value that he developed using a DCF approach. As a threshold matter, the Board found that Mr. Moody's adoption of the values that he developed using these approaches was inconsistent with the Board's findings regarding the legal and

regulatory landscape that existed during the relevant time period. Both these approaches, as well as his RCNLD method, were premised on the subject property's return being limited by its net book or carry-over rate base value.

With respect to Mr. Moody's RCNLD methodology, and in particular, his physical depreciation, the Board agreed with his 20-percent floor, which recognized the property's continued ability to produce income and avoid further soft costs. The Board disagreed, however, with his exclusive use of an NSTAR depreciation study conducted ten years earlier for rate setting purposes for his determination of the subject property's useful lives. The purpose of the study was to set utility rates to return capital to the investors over some pre-established period of time by including a depreciation expense in rates. The study, therefore, does not measure the depreciation of property but rather the return of money spent on property; the number of years it takes to return 50 percent of the money spent in any account is considered the service life. Consequently, this system tracks money in account balances rather than the age, location, or quantity of the property itself, and it underestimates the useful lives of the property, which Mr. Moody admitted "will live longer than the average" service life he used. He did not effectively demonstrate how his 20-percent floor might address this problem. In sum, Mr. Moody used an

analysis of "service life" to determine the amount of physical depreciation to use in his RCNLD analysis, which is a concept designed for a different purpose.

As for the economic obsolescence measurement that Mr. Moody incorporated into his RCNLD methodology, the Board found that his abiding premise – that the basis for a return from the subject property was limited to its net book value – was simply wrong here. Moreover, the "expected levelized earnings" that he used to calculate economic obsolescence were unsound because they were derived from and infected by his flawed DCF approach which is discussed below. Accordingly, the Board found that Mr. Moody's economic obsolescence was greatly overstated.

At any rate, Mr. Moody did not rely on his RCNLD in estimating a value for the subject property for the fiscal years at issue. With respect to his DCF analysis, it too suffered from a fundamental and fatal flaw; it was premised on obtaining net book value for the subject property. Consequently, the revenue numbers and other entries that he used in his methodology were selected to produce the regulated return on rate base, which resulted in a value very close to net book value. In other words, Mr. Moody essentially worked backwards from net book value to populate his model with the necessary figures and amounts to produce a value approximating net book.

The Board, therefore, found that the values that Mr. Moody derived using this circular technique were not reliable.

Moreover, the Board found that when it was revealed that one or more of the components that Mr. Moody used in his DCF approach were incorrect, he simply adjusted figures elsewhere in his methodology to produce a consistent result. For instance, to correct for an incorrect tax rate and the wrong weighted average cost of capital, Mr. Moody changed his rate increase figure to adjust his revenues to achieve his predetermined value. The Board found that these machinations undercut his and his DCF methodology's credibility.

Mr. Moody's estimated values for the subject property for the fiscal years at issue were based primarily on the subject property's net book values and secondarily on the values that he derived using his DCF methodology. The Board found that these estimates were not reliable because they were premised on the return from the subject property being based almost solely on the subject property's net book value. As has been discussed above, the Board disagreed with this proposition.

With respect to Mr. Sansoucy and his methodologies, the Board found that the appellant demonstrated that numerous shortcomings tainted his approaches and his reconciliation of them resulted in unreliable estimates of the subject property's values for the fiscal years at issue. Regarding Mr. Sansoucy's

cost approach, the Board agreed with the appellant's assertions and found that the useful lives that he used for depreciation purposes were not adequately substantiated with trustworthy factual underpinnings. For example, the Boston pole study upon which he relied "to independently view and assess the depreciation of the . . . property in the City of Boston as "part of our effort to determine the estimated life of [the] property for purposes of appraisal" was seriously flawed. The study included data on only seventy-three older poles out of approximately 50,000 poles in Boston, plus another twenty-two poles from outside Boston; the study's purpose was not to examine a random sampling of poles to help ascertain an average useful life, but rather was intentionally skewed toward the population of older poles in Boston; the study did not consider any retirement data thereby ignoring an entire segment of poles; and the study contained little analysis. The Board found that these shortcomings rendered the study of little use for determining an average useful life of poles in Boston.

Mr. Sansoucy maintained that he relied on two additional pole studies performed by his company – one from 2003 and another from 2013. The 2003 study examined only 211 poles, none of which were in Boston, but rather in central and western Massachusetts and southern New Hampshire. The Board found that this study, which also failed to include retirement data,

contained a small sample size of poles in areas not comparable to Boston. These deficiencies rendered it of little relevance here. Moreover, this study concluded that "a 50-year life for poles is conservative and reasonable" and commented that poles located near the ocean – like those in Boston - have shorter lives. Notwithstanding this conclusion and observation, the useful lives that Mr. Sansoucy used for NSTAR's transmission and distribution poles and fixtures were seventy-five and sixty years, respectively, well beyond the lives suggested by this study. The Board further found that the 2013 study, which was completed more than a year after the relevant valuation and assessment dates for these appeals, evaluated poles only in New Hampshire and also failed to include retirement data, thereby rendering it unreliable for determining an average useful life for poles here.

Another report that Mr. Sansoucy found "very probative" and "definitely considered" when estimating the useful lives of the subject property was the Niagara-Mohawk Power Corporation ("NIMO") asset condition study. This study involved the condition of existing assets of National Grid in upstate New York. It did not determine the average useful lives of that property, and it did not include any retirement data. What it did do was inventory and develop age distributions of the property then in existence in the NIMO system. The Board found

that Mr. Sansoucy did not establish the comparability of the NIMO property from upstate New York to the subject property in Boston. The Board further found that without retirement data, the study was not helpful in establishing average useful lives and Mr. Sansoucy's reliance on it was misplaced.

Mr. Sansoucy also claimed that "substation observations" contributed to his determination of average useful lives. His testimony revealed, however, that those observations actually consisted of some exterior photographs printed off of Google of perhaps one-third of the substations in Boston and some "over the fence" observations of only the "major" substations. The Board found that these so-called "observations" did not provide credible information for determining the average useful lives of the substation personal property.

Mr. Sansoucy reported that he also relied on a statistical study prepared by his staff of average service lives of property in four transmission accounts as reported by forty-one utility companies from across the country in their FERC filings. The study then calculated a variance in lives between 1996 and 2010 for each company purporting to show in graphic form that average service life for transmission property was increasing. Upon close examination of one of the accounts, the Board found that the depiction instead revealed that 70 percent of the companies reporting show either a decline or no change in average service

life for that account. Moreover, the Board found that even if there were a trend among some utility companies toward increased service lives, Mr. Sansoucy did not establish that NSTAR was one of them. The Board also found that in at least one of the accounts, the average life was not even close to Mr. Sansoucy's ninety-year life, instead averaging less than fifty-five years.

Lastly, in setting his average useful lives, Mr. Sansoucy reported that he examined information relating to "the galvanization of the fittings and fixtures that go with poles" and the *Wood Pole Newsletter*. The Board found that the only material pertaining to galvanization included with his expert appraisal report was a pamphlet that contained only generalized information about the subject and no specific information that might prove useful in quantifying the average useful lives of the subject property. The Board also found that the newsletter did not contain information about the life of wood poles, only alternative material poles.

In sum, the Board found that the average useful lives that Mr. Sansoucy employed to calculate depreciation were not reliable. They simply were not based on a credible factual foundation. As a result, the Board further found that the depreciation that he employed in his cost or RCNLD approach was flawed, rendering his estimates of the value of the subject property using that approach unreliable and inexact.

Regarding Mr. Sansoucy's comparable sales and the indicators that he derived from them, the Board found that all of his sales were enterprise sales and not sales involving just the personal property of the utilities, and, moreover, Mr. Sansoucy did not allocate values to all of the various components of the sales. Accordingly, the Board found that the metrics that he created from these sales were not appropriate ones for valuing simply NSTAR's personal property located in Boston. Furthermore, the Board found that Mr. Sansoucy's purportedly comparable sales were largely not comparable to NSTAR and the subject property. The appellant provided the Board with a table that is, in its essence, reproduced here, and that demonstrates the lack of comparability between these sales and NSTAR or NSTAR's property in Boston.

Sale #	**Company**	**Non-Comparable Bullet Points**
Subj. Prop.	NSTAR Electric in Boston	• 302,153 customers • Compact/dense service area (50 sq. mi.) • No gas • No generation • No non-utility assets • Net plant approx. $1.154 billion
1	Green Mountain Power	• 92,000 customers • Net plant $226 million • Low density geography • 18% generation plant
2	Energy East	• Super-regional, five states • 7 subsidiaries • 2.7 million customers (1.8 million elec.) • 1/3 customers for gas service • Coal/gas/hydro generation assets • Telecom assets • Steam heating/cooling assets

		• New England/New York service area
3	Puget Energy	• 1.75 million customers • 6,000 sq. mi. service area • Over 40% gas customers • Over 1/3 revenue from gas operations • Substantial generation assets
4	E.ON/Louisville Gas & Elec.	• Generation assets • Service in three states • Approx. 25% customers for gas service • Service area over 6,600 noncontig. sq. mi.
5	NSTAR	• Subject property is only the electric plant personal property in Boston • Plant in Boston is only approx. 29% of NSTAR Electric's total plant
6	CVPS	• 179,000 customers • Generation/hydro plants • Less consolidated service area over 163 towns
7	CH Energy	• 2,600 sq. mi. service territory • 370,000 customers; 70,000 gas • 19% non-utility revenues

The Board therefore found that the value indicators that Mr. Sansoucy created from these sales were not reliable gauges for determining the value of the subject property because these sales were not comparable to the subject property.

Mr. Sansoucy also employed several income-based methodologies to value the subject property for the fiscal years at issue: two DCF (or yield capitalization) models, one for a regulated purchaser and one for an unregulated purchaser; a "regulatory capitalization" method; and a direct capitalization approach. With respect to his DCF models, cross-examination revealed three fundamental errors which rendered them unreliable: the models were not "no growth" models as claimed;

they failed to depreciate the property over time; and they did not deduct or account for revenues attributable to other sources, such as real estate. As for his "no growth" claim, Mr. Sansoucy increased operating revenues in both his DCF models by 2.5 percent per year to account for rising operating expenses. However, by not precisely matching the increase in revenue to the anticipated increase in operating expenses, his "no growth" DCF models showed significant growth. In addition, Mr. Sansoucy's "no growth" DCF models failed to reduce future revenues to reflect the depreciation of the utility plant, which he attempted to justify by arguing that revenues would not decline because there would be future capital expenditures. However, his "no growth" models were premised on no future capital expenditures, which also failed to adequately account for replacements or addition due to non-recurring events, such as weather. Moreover, because Mr. Sansoucy's models do not deduct or account for the cash flows attributable to other sources, such as real estate, his models do not produce a value indicator for the personal property alone.

On re-direct, Mr. Sansoucy corrected for his "no growth" model showing growth by matching exactly his increase in revenue to the increase in operating expenses. He did not, however, account for reduced revenues due to depreciation or for revenues attributable to other sources, such as real estate.

Accordingly, the Board found that his revised DCF values remained inaccurate. Mr. Sansoucy then rejected his revised DCF model, ostensibly because the implied capitalization rate of 14.6 percent (which he determined by dividing the first year's EBITDA amount by the value resulting from this model) was too high and did not mirror the market, and introduced a new model for the hypothetical regulated buyer for fiscal year 2012.

The Board found that his new DCF model, which relied on the same revenues from his old and revised models, still did not deduct or appropriately account for non-personal-property sources of revenue. Further, the Board noted that Mr. Sansoucy applied an after-tax discount rate of 6.8 percent to discount EBITDAs each year. The Board found that the application of an after-tax discount rate to a before-taxes EBITDA figure was improper. The Board also found that both these errors artificially inflated the value of the subject property produced by this model rendering that value unreliable. In addition, by presenting his new DCF model only for fiscal year 2012 and only for the regulated hypothetical buyer, Mr. Sansoucy failed to submit substitute values for fiscal year 2013 or for the hypothetical unregulated buyer.

With respect to Mr. Sansoucy's regulatory capitalization method, the Board found that this unique methodology developed and used as a valuation technique solely by Mr. Sansoucy also

contained flaws that rendered the values derived from it unreliable. Perhaps the most significant flaws were Mr. Sansoucy's use of a partial after-tax discount factor to discount pre-tax dollars, and his failure to match debt payments to revenue collected for those payments, both of which inflated the value of the subject property.

With respect to Mr. Sansoucy's direct capitalization approach, which applied a capitalization factor to a single year's earnings, the Board considered the approach seriously flawed because it relied on a rate derived from a defective sales analysis (discussed, *supra*) and an EBITDA that included revenues from non-personal-property sources. Accordingly, the Board found that the values developed using this technique were unreliable.

Lastly, with respect to Mr. Sansoucy's reconciliation and his ultimate opinion of value, the Board found that he based that opinion on flawed value indicators (discussed in some detail, *supra*) and he curiously gave equal weight to each of the seven sales and income indicators of value, despite his opinion that some were more probative than others and that others were not reliable. Because of his reliance on such flawed indicators, the Board found that the indicated economic obsolescence values of 17 percent and 22 percent for fiscal years 2012 and 2013, respectively, that he developed for use

with his cost approach and his ultimate opinion of the subject property's value for both fiscal years at issue were speculative, not credible, and not supportable or useful for the Board's ultimate determination of value.

Conclusion

In sum, the Board found that the factors referenced in ***Watertown*** or equivalent factors continue to exist within the regulatory and legal landscape affecting regulated utilities in the Commonwealth, encouraging a buyer to pay more than net book cost for regulated utility assets like the subject property. The appellant's valuation expert relied on valuation methodologies that failed to account for the factual record and findings by this Board regarding the legal and regulatory framework during the relevant time period, and for primarily this reason, the Board found the values derived from the appellant's methodologies unreliable. While the assessor's valuation expert honored the existence of ***Watertown*** or equivalent factors in his valuation methodologies, his models and analyses also contained numerous shortcomings and flaws that tainted them and his reconciliation of them resulting in unreliable estimates of the subject property's values for the fiscal years at issue. Notwithstanding these flaws, the assessors and their valuation expert did present sufficient credible evidence and analyses to successfully challenge and

refute the applicability of the appellant's and its experts' bald net book assertions.

Accordingly, the Board found and ruled that the appellant failed to prove that the subject property's assessed values exceeded its fair cash values for the fiscal years at issue. The Board therefore decided these appeals for the appellee.

OPINION

The assessors are required to assess real estate at its fair cash value. G.L. c. 59, § 38. The standard to be used in determining fair cash value for taxation purposes is "'the fair market value, which is the price an owner willing but not under compulsion to sell ought to receive from one willing but not under compulsion to buy.'" ***Taunton Redevelopment Associates v. Assessors of Taunton***, 393 Mass. 293, 295 (1984)(quoting ***Boston Gas Co. v. Assessors of Boston***, 334 Mass. 549, 566 (1956)). "A proper valuation depends on a consideration of the myriad factors that should influence a seller and buyer in reaching a fair price." ***Montaup Electric Co. v. Assessors of Whitman***, 390 Mass. 847, 849-50 (1984).

The burden of proof is upon the appellant to make out its right as a matter of law to an abatement of the tax. ***Schlaiker v. Assessors of Great Barrington***, 365 Mass. 243, 245 (1974). The appellant must show that it has complied with the statutory

prerequisites to its appeal, ***Cohen v. Assessors of Boston***, 344 Mass. 268, 271 (1962), and that the assessed valuation of its property was improper. *See* ***Foxboro Associates v. Assessors of Foxborough***, 385 Mass. 679, 691 (1982).

An owner of special-purpose property has the burden of proof even if the property poses unusual problems of valuation. ***Foxboro Associates***, 385 Mass. at 691; ***Reliable Electronics Finishing Co. v. Assessors of Canton***, 410 Mass. 381, 382 (1991); ***Berkshire Life Insurance Co. v. Assessors of Pittsfield***, Mass. ATB Findings of Fact and Reports 1985-112, 120-21. The assessment is presumed valid until the taxpayer sustains its burden of proving otherwise. ***Schlaiker***, 365 Mass. at 245.

The taxpayer's burden of proof may shift in certain instances to the assessors, such as where the taxpayer/owner of electric transmission and distribution property has demonstrated that a buyer's return would be limited by the seller's rate base. ***Boston Edison Co. v. Assessors of Watertown***, 387 Mass. 298, 304-07 (1982)("***Watertown***"); ***Montaup Electric***, 390 Mass. at 855. The Court in ***Montaup Electric*** stated that a "taxpayer, which is a regulated utility, should not be required to establish the lack of special circumstances . . . until there is some evidence offered by the assessors to show that, because of such circumstances, the relevance of [net book cost] is put in question." ***Id.*** However, the burden of persuasion remains on

the taxpayer. ***First National Stores, Inc. v. Assessors of Somerville***, 358 Mass. 554, 562 (1971). In the present appeals, the Board found special circumstances existed placing the relevance of net book cost into question.

Generally, real estate and personal property valuation experts, the Massachusetts courts, and this Board rely upon three approaches to determine the fair cash value of property: income capitalization, sales comparison, and cost analyses. ***Correia v. New Bedford Redevelopment Authority***, 375 Mass. 360, 362 (1978). When valuing regulated utility property, other valuation techniques have also proved useful in assisting in the determination of, or in checking, the fair cash value of property. For example, in ***Boston Edison Co. v. Assessors of Boston***, 402 Mass. 1, 17 (1988), a "unit cost per kilowatt hour method[] of valuation" was used as a check on the value ascribed to electric utility property. In ***Boston Edison Co. v. Board of Assessors of Watertown***, 393 Mass. 511, 513 (1984)(quoting the relevant portion of the code), a New York statutory mandate, under N.Y. Admin. Code tit. 9, §§ 197-1.1, 197-3.2 (1983), which provided "that the tangible property of electric corporations be valuated at 'reproduction cost new, less depreciation of the tangible property,'" was considered, but distinguished. In ***Tenneco, Inc. v. Commissioner of Revenue***, Mass. ATB Findings of Fact and Reports 1988-30, 50, the Board determined the fair cash

value of pipeline property in Massachusetts using unit valuation methodology. However, when dealing with the valuation of utilities, "fair market value normally cannot be determined with meaningful assistance from comparable sales or by capitalization of income." ***Boston Edison Co.***, 402 Mass. at 15.

In a regulatory environment where rates (which govern income) are based on a carry-over rate base, the net book cost of a utility property reflects its restricted earning capacity. *See* ***Watertown***, 387 Mass. at 304-05. Some considerations that support using an approach, which reaches a higher value for the property than net book cost, such as depreciated reproduction or replacement cost, are: 1) when the rate of return on an investment in the property is expected to exceed the current rate; 2) when the rate of return exceeds the market rate of return for an investment of similar risk; 3) when there is a possibility that the law or regulatory decisions might change to make an investment in the property more attractive; 4) when there is potential for utility growth; and 5) when there is a possibility of finding a non-public utility purchaser. ***Watertown***, 387 Mass. at 305-06.

In the present appeals, the Board found the existence of special circumstances and ruled that, for purposes of property tax valuation, "the use of a valuation method other than [or in addition to] net book value [was justified]." ***Boston Gas Co. v.***

Assessors of Boston, 458 Mass. 715, 722 (2011). The Board compared its findings here with those made in ***Boston Edison Co. v. Assessors of Everett***, Mass. ATB Findings of Fact and Reports 1996-759, 839, 848-49, where the record established the existence of regulatory change and the possibility of a non-public utility purchaser. Based on that record, the Board used a blend of "depreciated reproduction cost,"[7] without economic obsolescence, and net book cost to establish the value of Mystic Station in Everett. ***Boston Edison Co.,*** Mass. ATB Findings of Fact and Reports at 1996-810-11. The Board similarly valued regulated utility property using a blended approach in ***Boston Gas Co. v. Assessors of Boston***, Mass. ATB Findings of Fact and Reports 2009-1195, 1297-98. The record here, however, is devoid of reliable valuation methodologies because the appellant's valuation expert did not take the existence of ***Watertown*** or equivalent factors into account and the assessors' valuation expert made too many errors. "The consequence of the [B]oard's rejections of the experts' opinions, therefore, was that the taxpayer had not persuaded the [B]oard that the property had been overvalued and, therefore, . . . had not carried its burden of proving that the assessors had overvalued the

[7] "Depreciated replacement cost" is synonymous with replacement cost new less depreciation (RCNLD).

property." ***Turners Fall Limited Partnership v. Assessors of Montague***, 54 Mass. App. Ct. 732, 735-36 (2002).

"The board is not required to adopt any particular method of valuation." ***Pepsi-Cola Bottling Co. v. Assessors of Boston***, 397 Mass. 447, 449 (1986). Nor is "[t]he board . . . required to believe the testimony of any particular witness but it [can] accept such portions of the evidence as appear[s] to have the more convincing weight." ***Assessors of Quincy v. Boston Consol. Gas Co.,*** 309 Mass. 60, 72. "The credibility of witnesses, the weight of the evidence, and inferences to be drawn from the evidence are matters for the board." ***Cummington School of the Arts v. Assessors of Cummington,*** 373 Mass. 597, 605 (1977) (citing ***Fisher School v. Assessors of Boston***, 325 Mass. 529, 534 (1950). In the instant appeals, the Board was persuaded of the continuing existence of ***Watertown*** or equivalent factors during the relevant time period but found the parties' valuation methodologies wanting for various reasons. "[T]he mere qualification of a person as an expert does not endow his testimony with any magic qualities." ***Boston Gas Co.***, 334 Mass. at 579.

CONCLUSION

Accordingly, the Board found and ruled that the appellant failed to prove that the subject property's assessed values exceeded its fair cash values for the fiscal years at issue. The Board therefore decided these appeals for the appellee.

THE APPELLATE TAX BOARD

By: _____
Thomas W. Hammond, Jr., Chairman

A true copy,

Attest: _____
Clerk of the Board